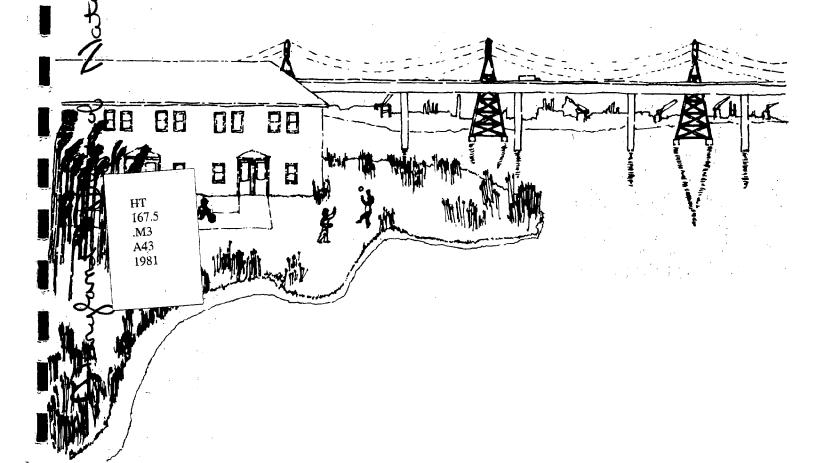
# URBAN WATERFRONT PLANNING PROGRAM

# TURNERS STATION

COASTAL ZONE

INFORMATION CENTER



URBAN WATERFRONT PLANNING PROGRAM

**TURNERS STATION** 

BALTIMORE COUNTY, MARYLAND

HT 167.5M3 A 43 188/

# **ACKNOWLEDGEMENTS**

This document was prepared by David Albright, Community Planning Division, Baltimore County Office of Planning and Zoning.

The following Baltimore County agencies contributed to the preparation of the report:

County Administrative Office
Department of Aging
Office of the Budget
Housing Rehabilitation Office
Department of Public Works
Department of Recreation and Parks
Department of Traffic Engineering

The preparation of this document was financed in part by a Federal Coastal Zone Management grant administered by the Maryland Department of Natural Resources, Coastal Resources Division, and by the Maryland Department of State Planning.

Additional information regarding Turners Station and any follow-up questions about this report can be obtained from the Baltimore County Housing Rehabilitation Coordinator, 494–3124.

# TABLE OF CONTENTS

LIST OF MA	APS	
INTRODUCT	ION	1
SUMMARY (	OF RECOMMENDATIONS	2
COMMUNIT	Y PROFILE	
	Location, History, Physical Characteristics Transportation Demographic Analysis Physical Conditions Community Development Issues Revitalization Strategy	4 12 15 16 19 22
WATERFRON	IT SEGMENTS-EXISTING CONDITIONS	
, ,	Introduction Water Quality Marina Area Segment Day Village Segment Fleming Waterfront Park Segment	26 29 30 32 35
DEVELOPME	nt recommendations	
 	Mars Marina Property Baltimore Gas and Electric Right-of-Way Day Village Storm Drainage Clement Cove-North Shore Fleming Waterfront Park Future Development Areas Conclusion	38 43 44 45 46 49 51
APPENDICES		
,	Appendix I – Demographic Data  Appendix 2 – Fleming Waterfront Park – Utilization  Appendix 3 – Fleming Waterfront Park – Unscheduled Uses	52 53 54

# LIST OF MAPS

Map Number	<u>Title</u>	Page
1	Location in Baltimore County	5
2	Dundalk Area	6
3	Project Area	7
4	Residential Sections	8
5	Commercial Buildings	9
6	Public Facilities	11
7	Neighborhood Streets	13
8	Bus Route	14
9	Marina Area – Existing Conditions	17
10	Storm Drainage Problem Areas	20
H	Current Development Projects	23
12	Waterfront Segments	27
13	Waterfront Sections	28
14	Day Village Segment	33
15	Fleming Waterfront Park Segment	36
16	Proposed Marina Area Improvements	41
17	Proposed Fleming Park Improvements	47

#### INTRODUCTION

This report is the result of a study of the Turners Station waterfront area, which was conducted by the Baltimore County Office of Planning and Zoning from December, 1981 to June, 1982. The study was funded by Baltimore County and by a Federal Coastal Zone Management grant. The program was administered by the Maryland Department of State Planning and the Maryland Department of Natural Resources (Coastal Resource Division) under the State's Urban Waterfront Planning Program. The purpose of the Program is to recommend improvements for waterfront areas. Primary areas of concern are improved utilization of vacant land, removal of blighting influences, resolution of environmental problems and improved public access to the waterfront.

The configuration of Turners Station is such that there are no significant natural or man-made boundaries which define a distinct "waterfront section" within the community. Turners Station is relatively small, homogeneous and self-contained. Therefore, the approach in the study, particularly the Community Profile Section of the report, was to analyze all issues on a community-wide basis prior to concentrating upon waterfront analysis and planning. Subsequent sections address the waterfront more exclusively within the context of the overall Turners Station revitalization strategy.

Maps are located after the page where they are first referenced. Detailed data which support conclusions mentioned in the report are located in the Appendices.

An appendix which lists the assumptions related to project cost estimates is also included.

The report begins with a summary of the recommendations resulting from the study.

SUMMARY OF RECOMMENDATIONS

#### SUMMARY OF RECOMMENDATIONS

The Turners Station waterfront is predominantly in good condition. There is only one poorly utilized parcel on the waterfront which requires a major redevelopment effort. There are, however, several areas of blight due to dumping of debris or deterioration of structures. Most of the recommendations of this study are therefore in the category of enhancement or clean-up. These proposals are not intended to supercede the current revitalization program being implemented by Baltimore County and the Turners Station Development Corporation (TSDC). The priority for the implementation of waterfront improvements will be determined in consideration of the overall revitalization process. Some recommendations require actions by private property owners and are therefore less controllable by the County or TSDC. The recommendations, more fully discussed in the Development Recommendations Section of this report, are that:

- Baltimore County acquire the Mars Marina, Inc. property and redevelop it as a public boat launch facility and neighborhood park;
- The Baltimore Gas and Electric Company clean the debris on their right-of-way on Peachorchard Cove and install a barrier to restrict automobile traffic to this location;
- The Day Village management correct the drainage problems at Doris
   Drive and in the area within the Avondale Drive loop;
- The Day Village management continue their current maintenance procedure to control the Phragmites growth at Clement Cove;
- The Day Village management beautify the Clement Cove shoreline by covering existing piles of exposed concrete with fill and plant material;
- Baltimore County demolish the pier in Clement Cove near the end of Laura Drive;
- Baltimore County beautify and stabilize the Fleming Waterfront Park shoreline by covering existing piles of disposed concrete and brick and new riprap with fill and plant materials;

- Baltimore County install a new picnic pavillion, tables and barbecue grills at the Fleming Waterfront Park;
- Baltimore County establish new landscaping in the vicinity of the new picnic pavillion;
- Baltimore County remove the debris at the Fleming Waterfront Park near Main Street, install a vehicle barrier to control future vehicular access, and pave the dirt access road;
- Baltimore County and TSDC work with the owner of the Sollers Point Marina property to increase the likelihood that future development is consistent with County and community development goals.

The only funding which has been appropriated for the proposed County projects is a first phase for the Mars Marina acquisition and redevelopment. The balance of the recommendations for public action are made to assist agencies in establishing capital budget priorities for the future. Potential funding sources include current and future Turners Station Community Development Block Grant funds, the Baltimore County Capital Improvement Program, the State of Maryland Waterway Improvement Program and the State Open Space Program.

COMMUNITY PROFILE

#### COMMUNITY PROFILE

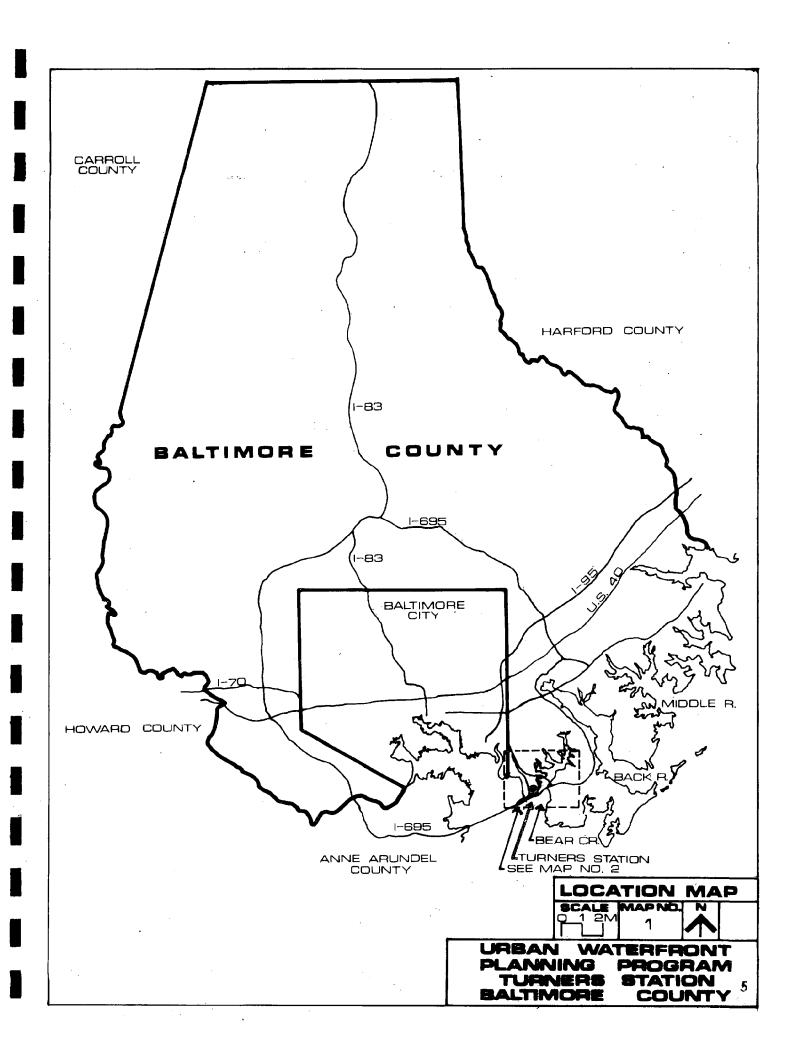
## Location, History, Physical Characteristics

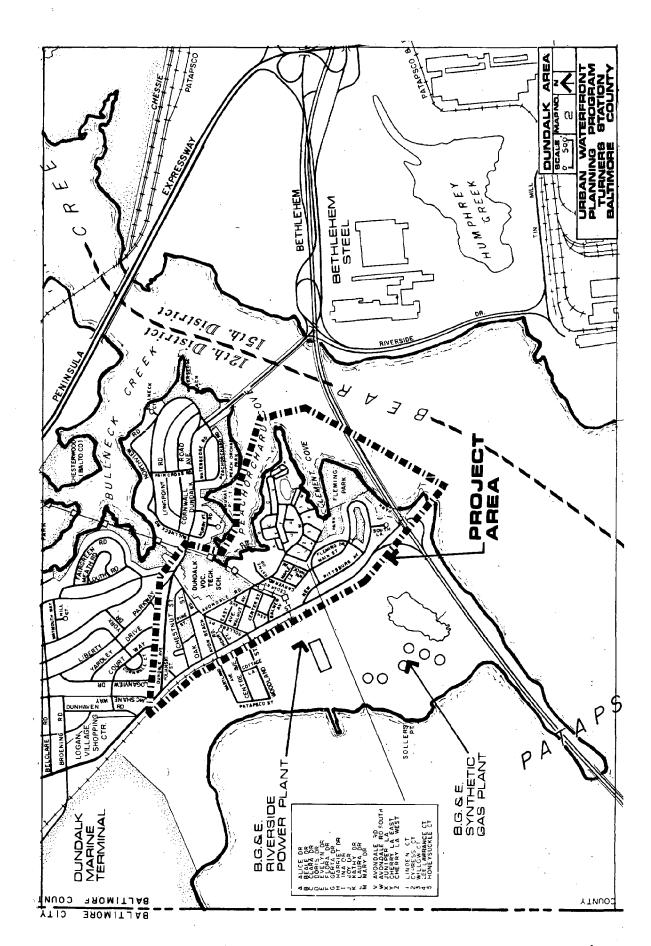
Turners Station is a waterfront community located in the southeastern portion of Baltimore County (See Map I). Nearby land uses include the Baltimore Gas and Electric Company's Riverside Power Plant and Synthetic Gas Plant to the west, the Dundalk Marine Terminal to the northwest, the Dundalk residential community to the north and Bethlehem Steel's Sparrows Point plant across Bear Creek (See Map 2). Turners Station is bounded on the west by Main Street, on the north by Dundalk Avenue and on the east and south by Bear Creek (See Map 3). In this report the Turners Station designation conforms to the Neighborhood Strategy Area defined by Baltimore County in its Community Development Block Grant Program.

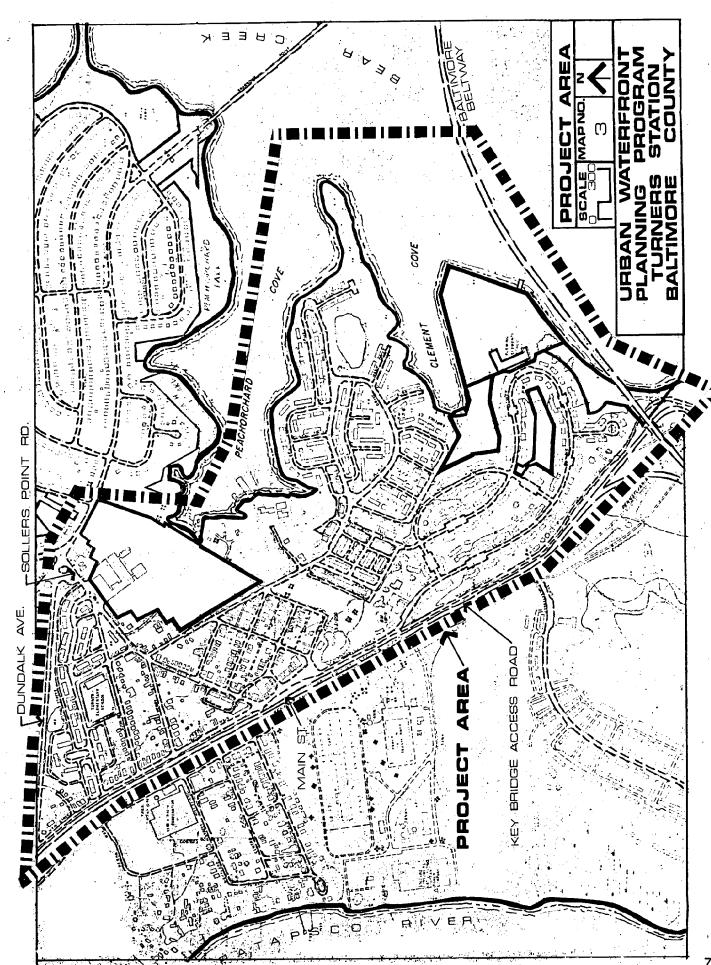
Turners Station was first developed in the early 1900's when housing was built to accommodate black workers at the steel plant on Sparrows Point, then operated by the Maryland Steel Company. These homes were located in the central area of the community between Sollers Point Road and Cedar Avenue (See Map 4). During and after World War I, there is a record of some manufacturing activity (ballistics and aviation parts) in Turners Station. A 1926 aerial photograph shows signs of a manufacturing complex on the south shore of Clement Cove, but no records indicate the specific company which operated at that location.

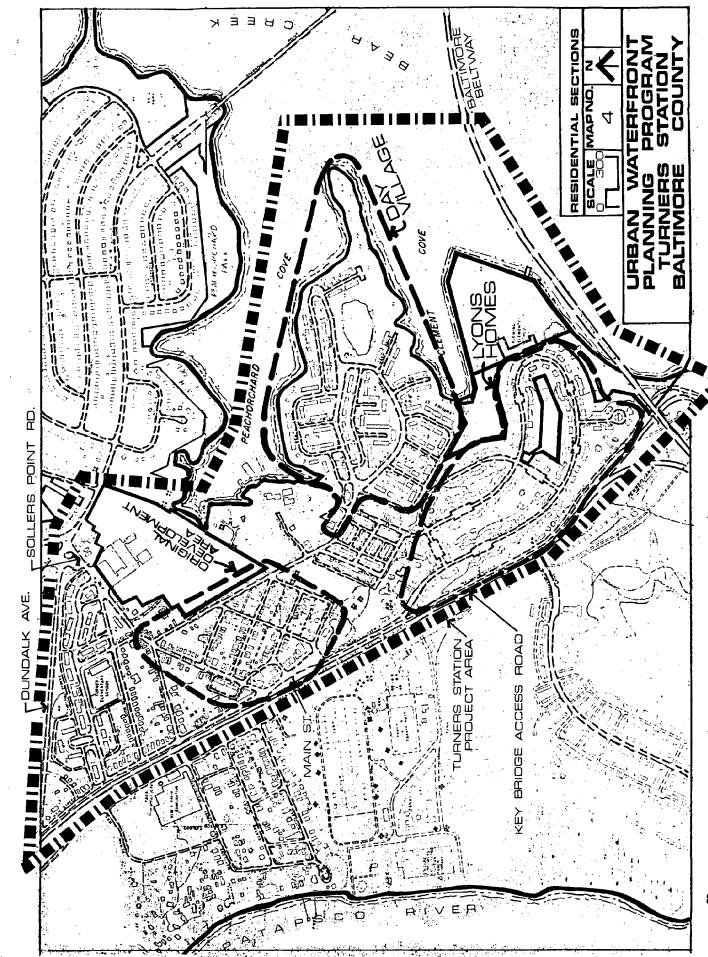
Extensive development occurred during World War II, when two large housing complexes were constructed. Day Village has 500 two-bedroom, two-story units and Ernest Lyons Homes has 300 one-and-two-story units (See Map 4). There is a cluster of row houses at the north end of Turners Station which was also built during World War II. The balance of the residential development in the community occurred more gradually, and includes a mix of frame and brick houses.

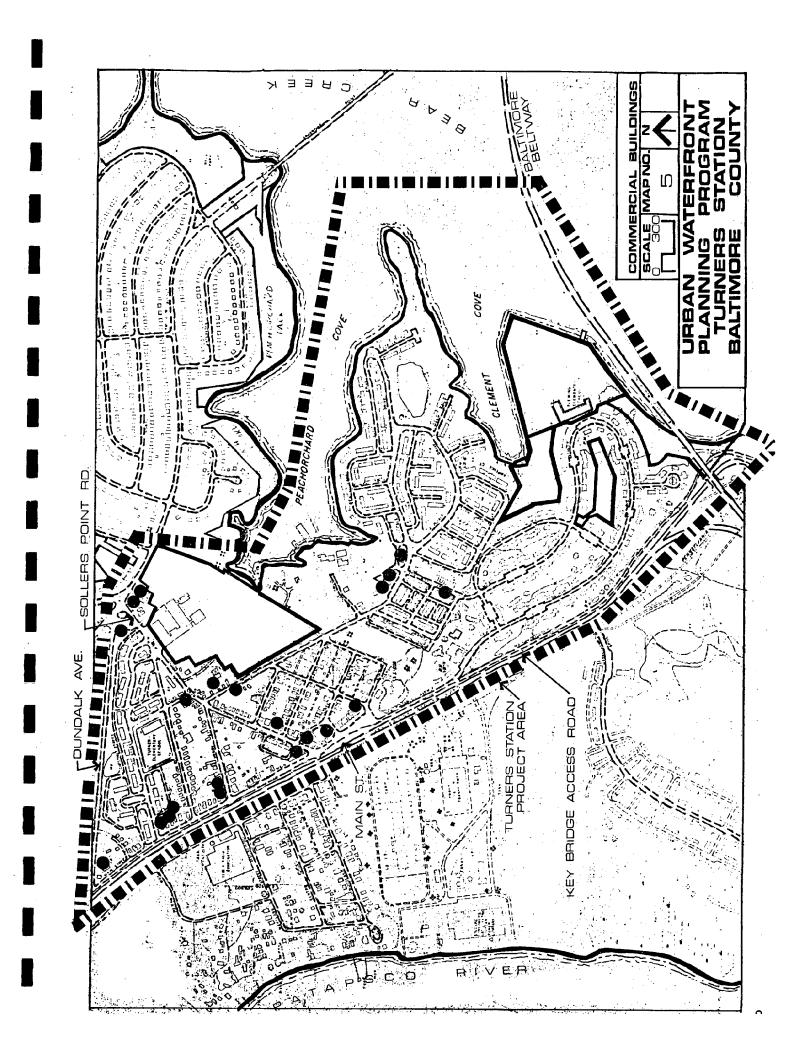
The commercial businesses in Turners Station are small neighborhood service type facilities including "Mom and Pop" convenience stores, barber shops, beauty salons, taverns and package goods stores. The commercial buildings are generally scattered through the northern half of the community (See Map 5). Three of the











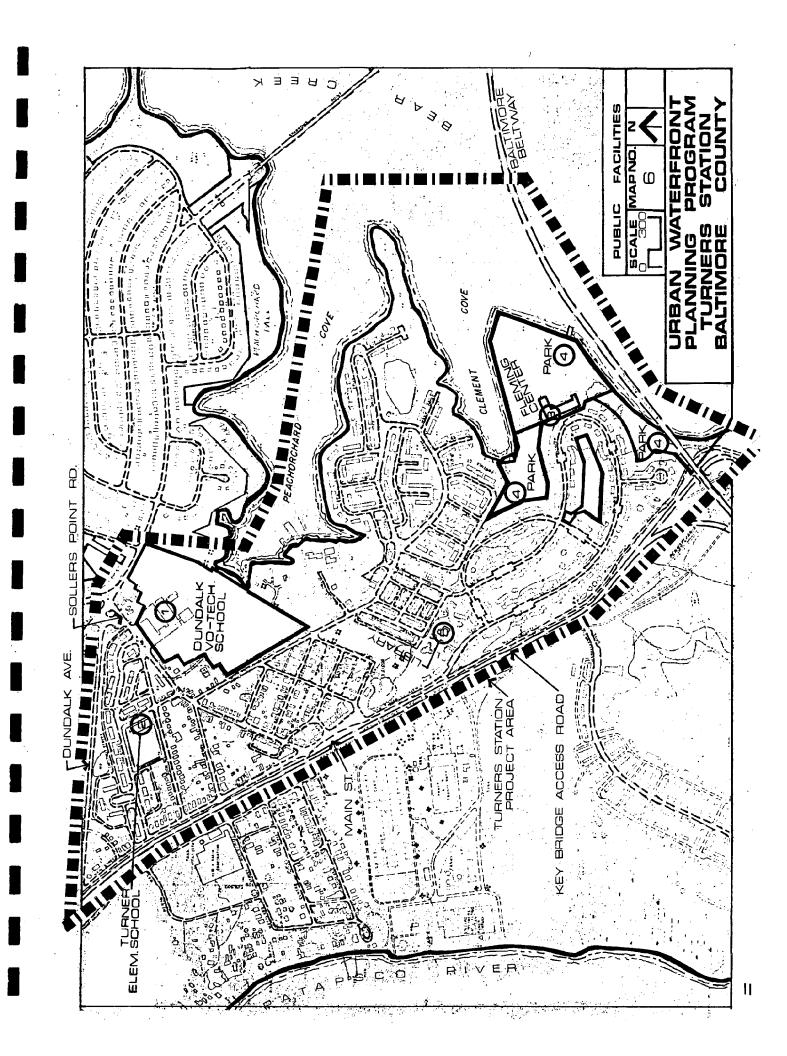
buildings are vacant and several others have only partial occupancy or irregular use. There are two small concentrations of commercial activity within the community: at Main Street and Sollers Point Road and at Avondale Road and William Wade Avenue. The only commercial operations (2 gas stations, package goods, carry-out food) which attract significant business from outside the community are those located on Dundalk Avenue at its intersections with Main Street and Sollers Point Road.

The largest commercial property in Turners Station is the Mars Marina. The seven-acre marina site has shoreline frontage of approximately 1000 feet. The marina operation has been scaled back considerably since a fire damaged piers, boats and support buildings in 1976. The site now includes an auto repair shop, four house trailers, a cottage, several vacant decrepit structures and storage of approximately ten boats.

There are several county facilities in Turners Station (See Map 6):

- 1. The Dundalk Vocational Technical Center serves students throughout the southeastern section of the County and has a gymnasium and athletic fields available for community use.
- The Turner Elementary School closed in 1979 and has since been vacant. A developer has proposed a re-use plan for Turner Elementary school, which is discussed in another section.
- 3. The Fleming Elementary School closed in 1969 but has been operated by the County as a multi-purpose community center since 1972.

  Services offered include day care, Head Start and senior citizen and County Health Department programs.
- 4. On three sides of the center is the Fleming Waterfront Park. The park has several ball-fields, a fishing pier, a picnic pavillion, a tot lot, and basketball and tennis courts. A portion of the athletic field and the basketball court are lighted for evening use. Most of the Fleming Park facilities described above were constructed or refurbished in 1977 at a cost of \$326,000 with County and State Open Space funds.
- A Baltimore County Public Library branch is located north of the Ernest Lyons Homes complex. The branch is leased from the Veterans of Foreign War.

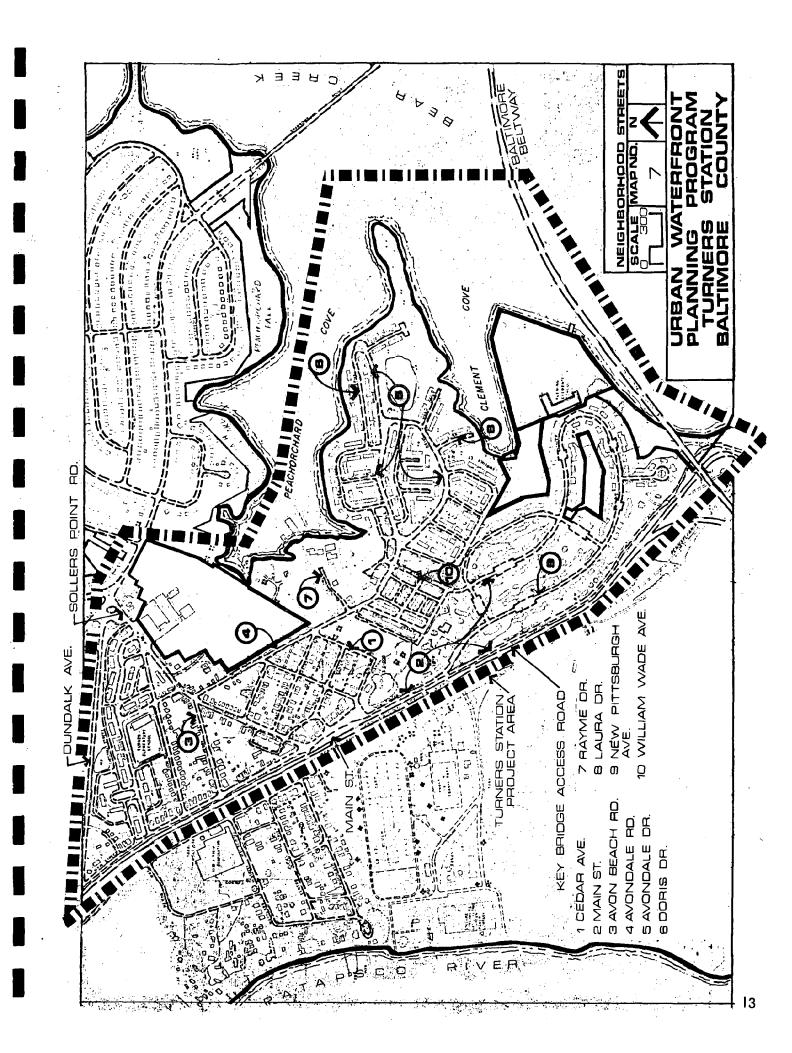


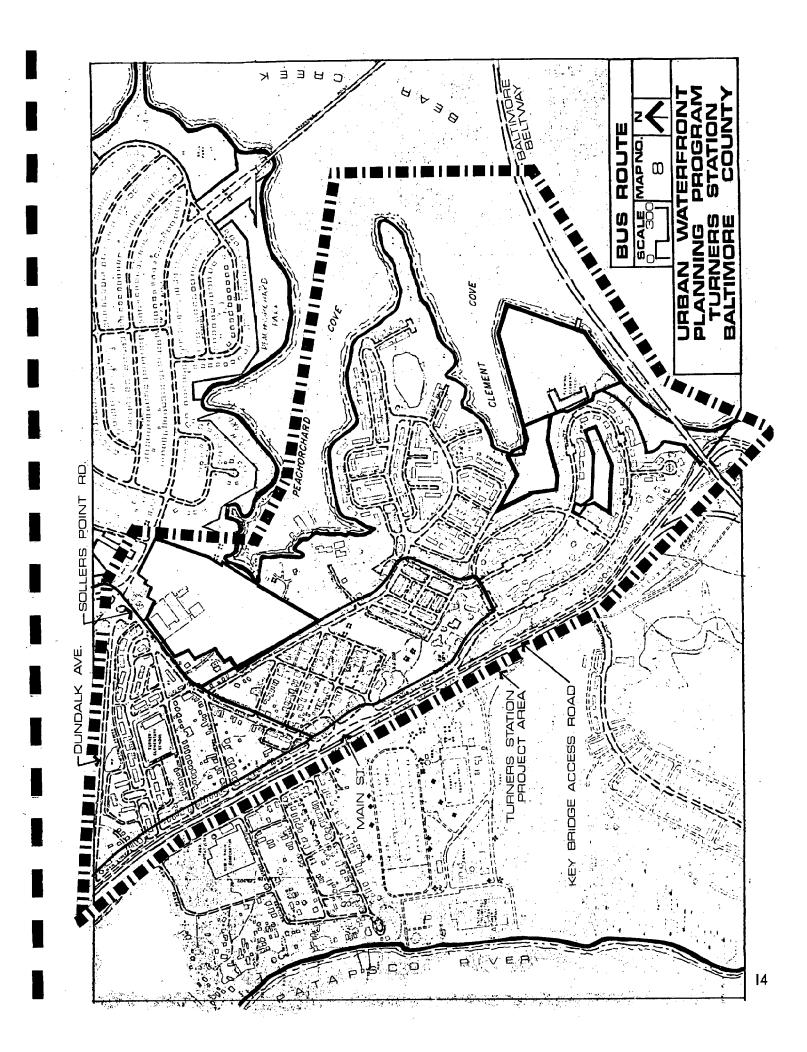
#### Transportation

The internal street system in Turners Station serves almost exclusively local neighborhood traffic. There are only two major vehicular ingress/egress points for the community: Sollers Point Road at Dundalk Avenue and Main Street at Dundalk Avenue. Access, limited to certain turning movements, is also available at Avon Beach Road and the Francis Scott Key Bridge Access Road. The only traffic that travels through the community are vehicles which use Sollers Point Road and Avon Beach Road to or from the Key Bridge Access Road. Thus the limited access to Turners Station isolates it from the balance of Dundalk. Map 7 shows the location of the streets mentioned above and all other streets referenced in this report.

The major north-south neighborhood streets are Main Street/New Pittsburgh Avenue, Avondale Drive and Avondale Road. Avon Beach Road and Sollers Point Road are the major east-west neighborhood streets.

Mass Transit Administration bus service on the #10 line provides access to Sparrows Point, Dundalk and East Baltimore. The bus route, however, traverses only the north half of the community (See Map 8) and is not considered reliable by many residents.





### Demographic Analysis

Demographic Data demonstrate that Turners Station is economically and socially distressed in relation to the balance of Baltimore County (See Appendix I for details). Census Tract 4213 includes all of Turners Station, plus the area north of Peachorchard Cove and south of Dundalk Avenue. The latter community includes most, if not all, of the white population in the Census Tract.

Although the population of Baltimore County increased by 7.6% during the 1970's, Census Tract 4213 suffered a decrease of 20% of the population to the current total of 3,940. The reason for the loss is the general decrease in household size combined with the lack of opportunity for construction of additional housing units. Single-family units are virtually fully-occupied in Turners Station. There are a few vacant apartment units on the second level of commercial buildings. Both Day Village and Ernest Lyons Homes have waiting-lists for tenants. The vacancy rate for the community is approximately .5%. As new families form, they must often move out of the community. The percentage of the community's pre-school population exceeds the County-wide average.

Median income for Turners Station families not only lags behind the County-wide median, but also is increasing at a lower rate than that for the balance of the citizens of the County. Based upon a 1976 survey, the median income of \$10,136 was only 65% of the County-wide median, down from 72% in 1970.

The education level of Turners Station residents is well below that of the balance Baltimore County. Only one resident in four over the age of 25 has completed high school, which is slightly less than half for the same County-wide population. The comparison for college education is even more extreme. Less than four percent of Turners Station adults have completed four years of college, compared to over twelve percent for all of Baltimore County.

#### Physical Conditions

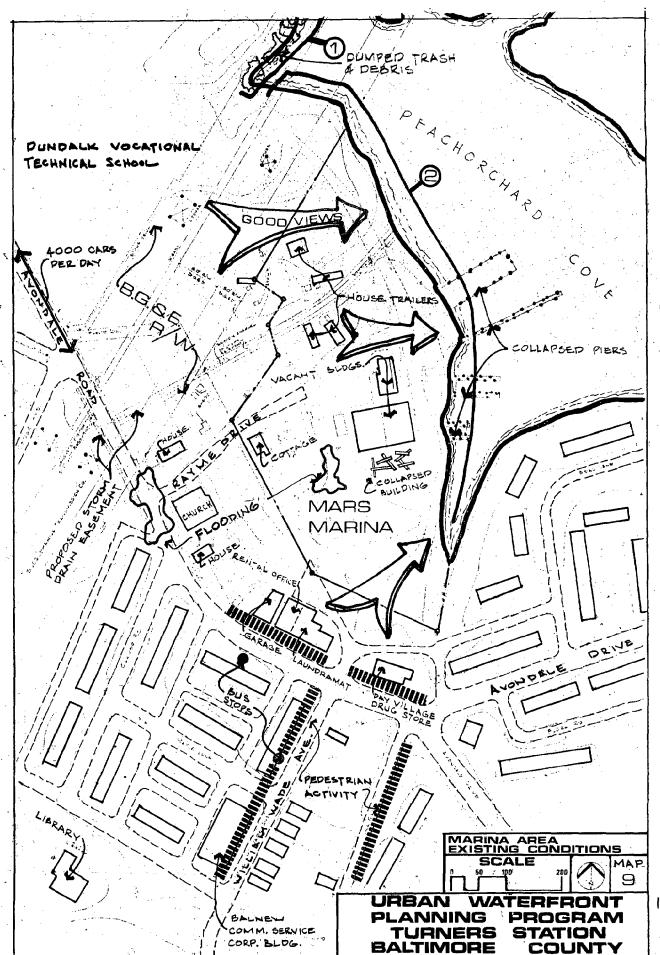
The single family detached units in the northern half of the community, particularly the brick units, are in very good condition. Some of the older frame houses show signs of deferred maintenance and deterioration. The few vacant houses are generally more deteriorated. Day Village and Ernest Lyons Homes are in good structural condition. However, both complexes have the service elements of the units oriented toward streets. Such features as gas and electric meters, clothes lines and auto parking present visual clutter from certain views. The Lyons Homes complex has metal canopies over entrance doors, many of which are bent or sagging.

Although there are few vacant sites in Turners Station, the houses are sited in ways that retain a relatively large amount of open space. The waterfront provides a pleasant edge to the east and south.

Evidence of blight is more prevalent with commercial properties. There has been a steady decline in the extent of commercial activity in Turners Station. There are several vacant structures, most of which are showing some signs of neglect and deterioration.

The most severe source of blight is the Mars Marina (See Map 9). Since the fire in 1976, the condition of the property has steadily deteriorated. There are several vacant unmaintained buildings and one collapsed structure which sits in a pile of debris. The piers are collapsing and abandoned boat hulls are scattered in the water and on the shore. Trash has been dumped at numerous locations and several automobiles have been abandoned. The owner has done some grading and filling, leaving piles of dirt in two locations which exacerbates existing drainage problems. The property has a few trees, and large portions are covered in gravel or weeds.

Adjacent to the marina on Avondale Road is a small group of commercial structures (See Map 9). The Day Village Drug Store has been vacant since the termination of a pharmacist's lease in 1972. The building exterior is in good condition, but would require a complete interior renovation to accommodate either a



pharmacy or adaptive reuse. A portion of the building to the north is occupied by the management of the Day Village housing complex. The balance of the building contains laundromat equipment, but has not been operational since 1978. Business had been slow at that time (most residents of Turners Station have washing machines), and rather than make some equipment repairs, the manager decided to leave the business. The northernmost building is a small automobile garage which operates at infrequent hours and no longer pumps gasoline. The building exterior is stucco, which is generally in poor repair. Inactive gas pumps are deteriorating at the front of the building.

One block from these three properties is a two-story multi-tenant facility owned by the Balnew Community Service Corporation. Current uses include a grocery store, package goods/bar, barber shop and a church. Approximately half of the space is vacant. The building requires a new furnace and extensive reroofing. Several large window openings currently have only plywood infill.

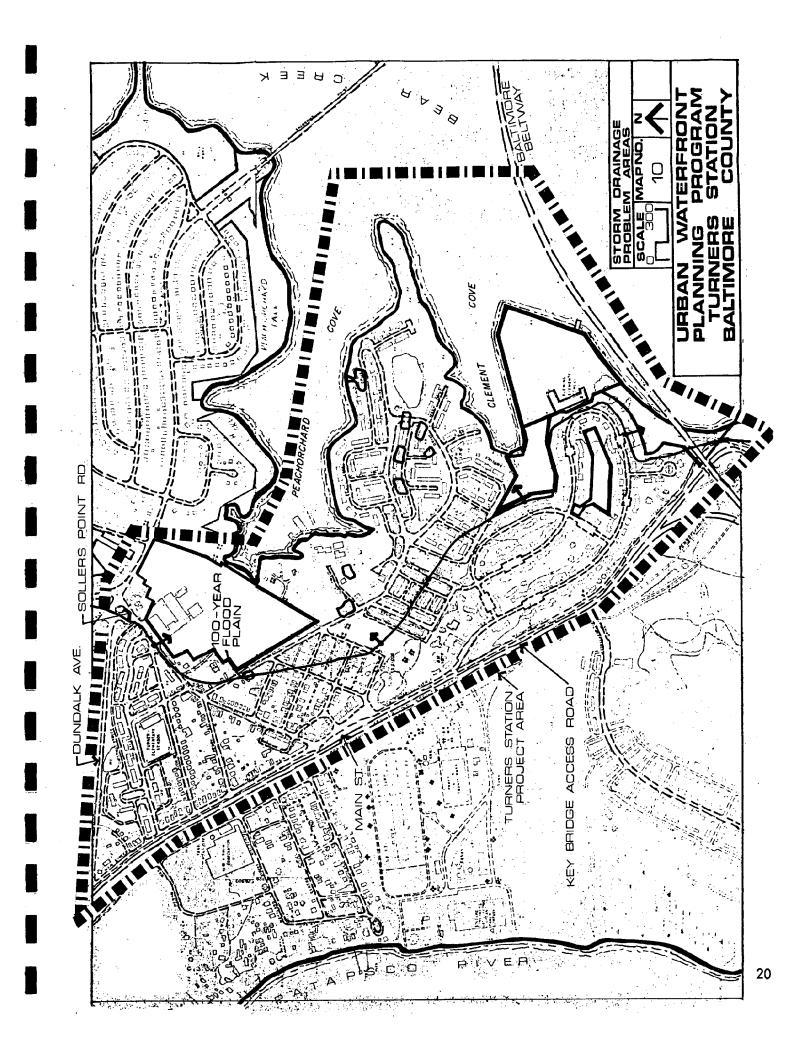
These structures in the vicinity of the Marina form one of only two small concentrations of commercial activity in Turners Station. They are the only commercial buildings in the entire southern half of the community. Their current low utilization and fair to poor physical condition, when combined with the adjacent Marina form a substantial area of physical blight at the Turners Station waterfront.

#### Community Development Issues

The major concerns of Turners Station residents relate to problems of economic and social distress and issues regarding the physical condition of their neighborhood. The focus of organized community action is the Turner Station Development Corporation (TSDC). TSDC was incorporated in 1978 and has developed a productive working relationship with Baltimore County government. Another significant organized force in Turners Station is the churches. There are nine churches in the community which serve important social functions in addition to their religious focus.

The issues outlined below are listed in descending order of priority, as interpreted through contact with TSDC and Baltimore County agencies. Most of the issues relate to the waterfront by physical proximity or where waterfront land is an alternate development consideration. Concerns which exist throughout the County, and have County-wide solutions (crime rate, unemployment, youth problems) are discussed only incidentally in this report.

- The major issue in Turners Station is the lack of housing alternatives. Existing units are virtually fully occupied and little developable vacant land exists. Elderly residents are often living alone or with a spouse in large houses. Many would prefer a smaller house or apartment. Newly forming families have no vacant units available, often resulting in a move to another community. The result is an aging population which is declining in number.
- Storm drainage problems exist in several areas adjacent to the water-front (See Map 10). The existing public-and developer-installed pipes are inadequately sized. Some curb and gutter deterioration contributes to the problem. Nearly half of Turners Station is in the 100-year flood plain. Bear Creek flooded over its banks during some of the heavy rainstorms experienced during the last ten years. Ponding now accurs after most storms, resulting in icing problems in the winter and breeding areas for



mosquitoes in the summer. The two most serious flooding areas are

Avondale Road near the Marina and along Doris Drive in the Day Village
complex.

- The Mars Marina property, as previously described, is a blighting influence upon the community. Its current condition severely limits public access to the waterfront. The grading and filling which has occurred exacerbates the storm drainage problem.
- Commercial disinvestment is a well-established trend in Turners Station. Most of the retail operations in Turners Station serve only the immediate neighborhood. The 4,000 person market can support a limited amount and variety of such services. Area traffic patterns result in little outside vehicular activity through the community. Many of the operators who have survived appear to be in marginal situations. The public infrastructure in the vicinity of the commercial properties is generally good, except for street lighting. Some sidewalks require repair, and additional parking is needed in some areas.
- Transportation concerns often relate to other community issues. Public transportation does not serve the entire community, is infrequent and considered unreliable by many residents. This affects neighborhood shopping patterns, and further isolates some residents from services and activities located in other parts of the County. In 1976, according to a TSDC survey, 32% of Turners Station households owned no automobiles (compared to 7% County-wide).
- In many sections of the community, sidewalks, curbs and gutters are in poor condition, or do not exist at all. In some cases this contributes to storm drainage problems.

# Revitalization Strategy

In 1979 the Turners Station Development Corporation and Baltimore County began a dialogue which resulted in the identification of numerous revitalization projects which would begin to address their concerns. In order to implement these projects, funds were obtained from the Federal Community Development Block Grant Program, the State of Maryland and the County Capital Improvement Program. The list below outlines the scope of activity through the spring of 1982. Map II shows project locations.

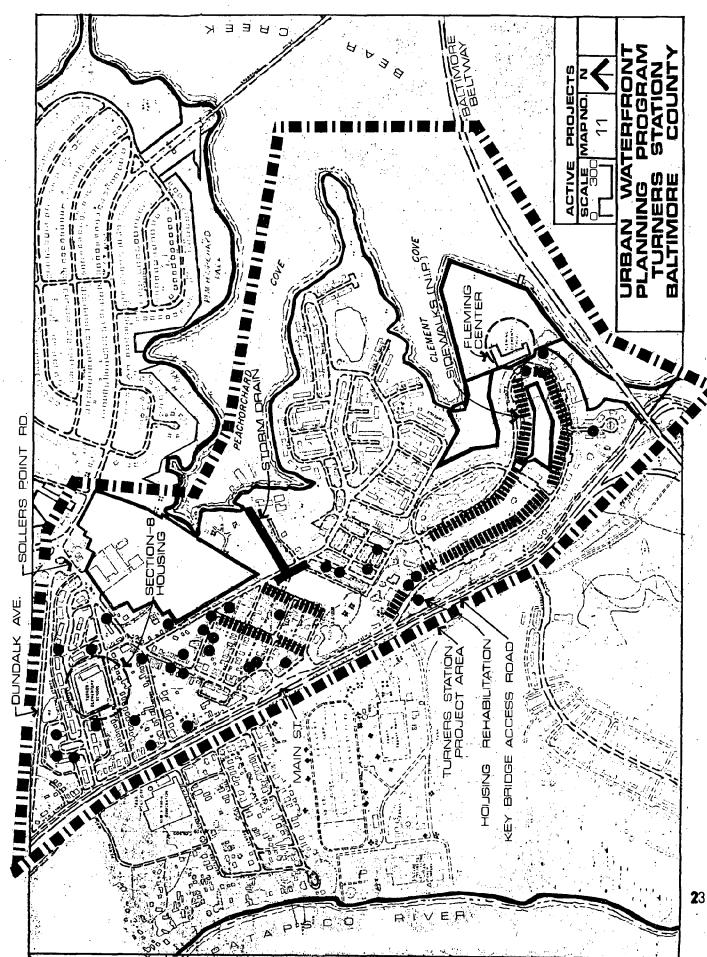
Housing Rehabilitation (\$190,000) has been completed in approximately forty units. Grant funds and loan programs have been employed.

Most improvements have been modest in scale and have included rewiring, re-roofing, new and repaired porches and weatherization.

Acquisition of vacant houses (\$100,000) is still being strategized. The goal is to recycle vacant houses with new owner-residents coming from the existing community. Vacant houses have been identified and owners are being contacted as to their willingness to sell. Prospective buyers will be given home-ownership counseling and assistance in obtaining financing for acquisition and rehabilitation.

"Section 8" housing is a rental subsidy program of the U.S. Department of Housing and Urban Development. The construction of the housing, by private developer David Clark Associates, involves the conversion of the Turner Elementary School to 12 apartments and the construction of 24 new townhouses on the school playground. Because the school conversion results in one-bedroom units, it is expected that most will be occupied by the elderly. This \$1,500,000 project, the first substantial new private development in Turners Station since the late 1940's, is scheduled to begin construction in the fall of 1982.

Senior-Citizen Housing-Feasibility Study (\$25,000) has been determined



unnecessary because of the Section 8 project. The funds are proposed to be reprogrammed to assist David Clark Associates with some unanticipated up-front costs in the Section 8 project.

New storm drain lines (\$150,000) will be installed in the vicinity of Avondale Road and Rayme Drive. This project will eliminate flooding problems by replacing improperly designed lines, and restoring the natural drainage flow. Design is complete and permits have been approved. However, the project cannot be bid until the right-of-way can be acquired. A segment of the right-of-way traverses the Mars Marina. Acquisition of that segment is being delayed because of legal issues related to disputed ownership of a portion of the Mars Marina property.

The Fleming Community Center (\$489,000) will be completely rehabilitated, and will continue to serve as a multi-purpose community facility. Construction is scheduled to begin in September, 1982 and should be completed 10 months thereafter.

The Neighborhood Improvement Program implements a variety of small-scale community-based public improvements for Baltimore County. In Turners Station \$116,000 has been committed for new sidewalks, curbs and gutter, landscaping, a tot lot and bus shelter. Construction on new sidewalks, curb, and gutter is underway at New Pittsburgh Avenue.

Commercial revitalization funds (\$30,000) have been designated for public improvements in the vicinity of existing commercial areas. A commercial revitalization strategy is currently being developed to provide direction for the use of these funds.

Because of the number and variety of active County projects and programs in Turners Station, in April, 1982 the County Administrative Officer determined that a County staff-person was needed to coordinate the flow of information for all such activity.

The County's Housing Rehabilitation Coordinator was given this responsibility

The revitalization program will continue as new projects are identified and additional funding is obtained. The recommendations for waterfront improvements in this report will provide one source of potential projects when additional community development activity is being considered for Turners Station.

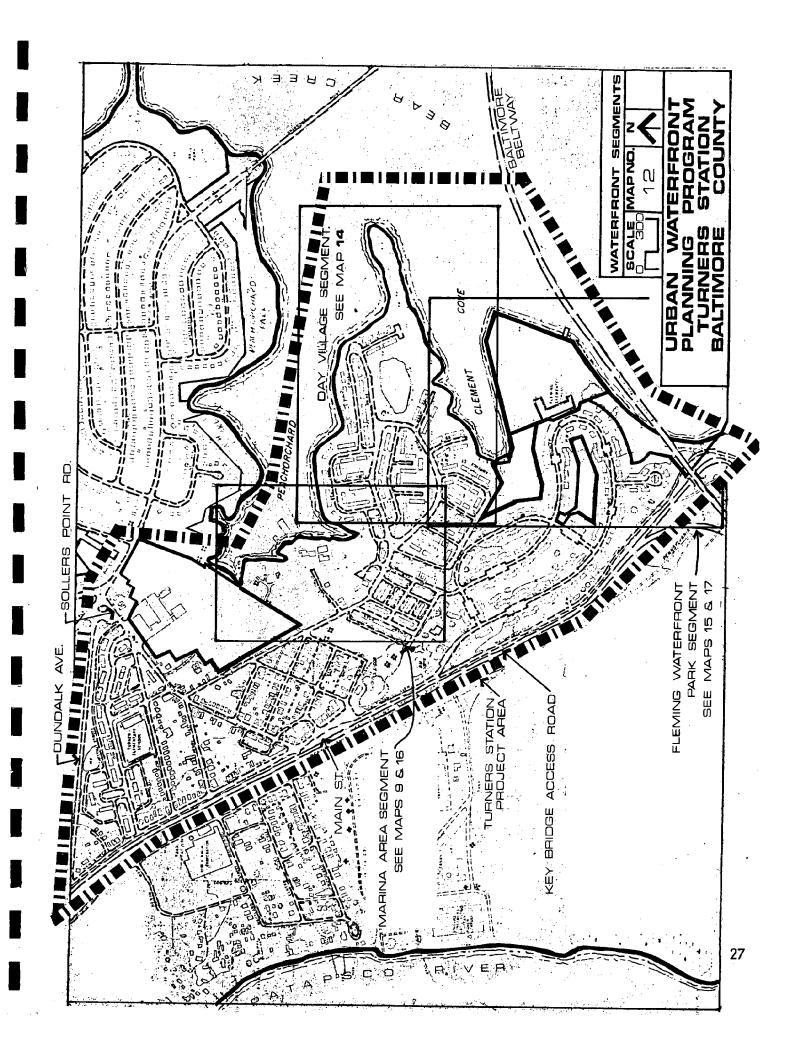
WATERFRONT SEGMENTS - EXISTING CONDITIONS

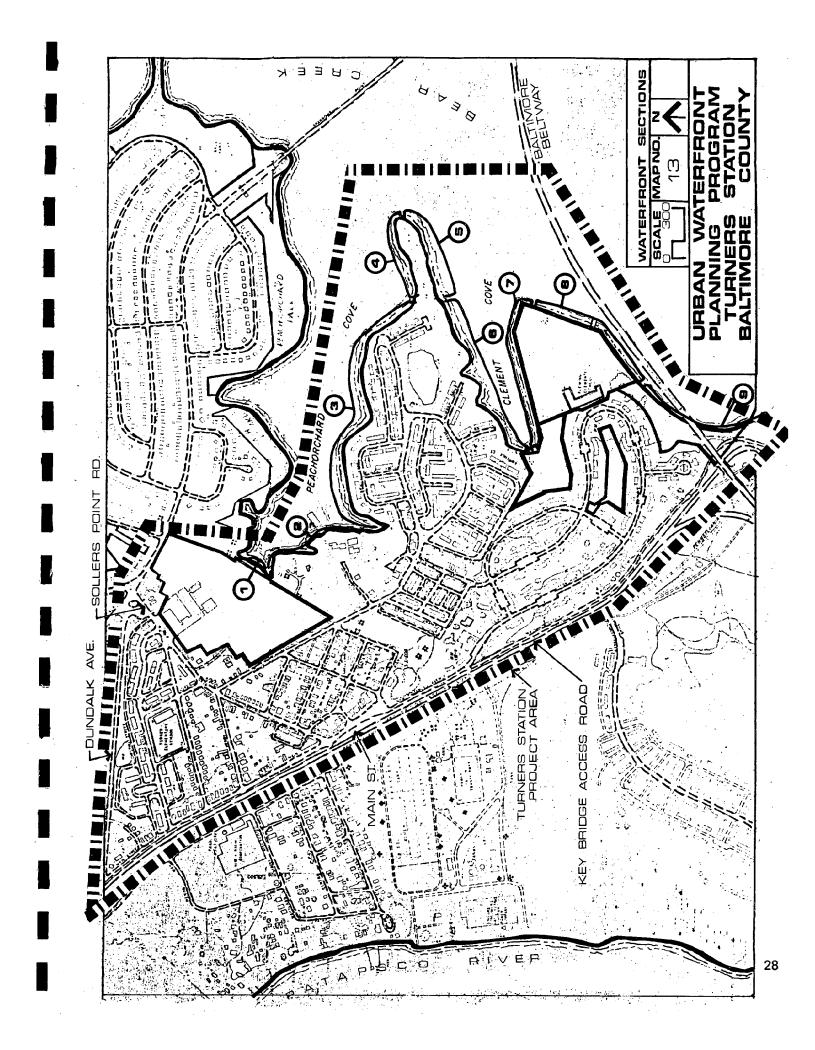
#### WATERFRONT SEGMENTS - EXISTING CONDITIONS

#### Introduction

The Turners Station waterfront, along the shoreline of Bear Creek, is at the eastern and southern edge of the community (See Map 12). Bear Creek, a tidal body of water which empties into the Patapsco River, extends into Turners Station at Clement and Peachorchard Coves. The Turners Station shoreline is more than 1.5 miles long. The only area of the community which is more than  $\frac{1}{4}$  mile from Bear Creek are the houses located northwest of Turner Elementary School.

There are three distinct segments of the waterfront, differentiated by land use patterns, ownership and development potential (See Map 12). Each of the three segments has sections which vary by shoreline conditions (See Map 13). This section of the report includes a narrative about the water quality in Bear Creek which is followed by analysis of the three segments in detail.





## Water Quality

Until 1966, a bathing beach operated along Bear Creek at section 9. In that year, all of the bathing beaches on Bear Creek were closed by order of the Baltimore County Health Department because of the level of water pollution. In the Bear Creek Water Quality Study (1970-71 Baltimore County Health Department) the major sources of pollution were identified as private homes with failing septic systems, storm drain outlets (pollution from streets and fields) and nearby industries. Another potential source of pollution is tidal action which may carry pollutants from the Patapsco River. Sediments in Bear Creek were noted to be contaminated with chromium, zinc, lead, mercury, copper and cadmium in the Interim Report on Environmental Enhancement of the Baltimore Harbor (Regional Planning Council 1981).

There are three sampling locations near Turners Station used by the County Health Department. One is at Clement Cove, one is at Peachorchard Cove and the third is at the location of the former bathing beach. Biological Oxygen Demand and Dissolved Oxygen readings were both far in excess of acceptable levels in 1970. Subsequent readings indicate some improvement in water quality, most likely due to public sewer construction and new pollution control laws. There is a greater frequency of readings in the "acceptable" range and a lesser frequency of readings above acceptable levels. However, according to the Health Department's update report in 1980: Bear Creek "... is not now, nor can it be expected to be in the near future suitable for [water contact recreational use]."

### Marina Area Segment

The Marina Area Segment is located at the westernmost portion of Peachorchard Cove. The Mars Marina, which occupies most of the shoreline, and the adjacent commercial properties were described in the Community Profile Section. Along the northwest edge of the Marina (See Map 9), is a 200'-wide Baltimore Gas and Electric Company right-of-way occupied by large transmission towers supporting power lines. Local residents use the open space between the towers for vegetable gardens. Along Avondale Road north of the commercial buildings are two houses, a church, and several vacant lots. These properties all have views to the water and form a micro-community with the Marina. The church and houses are well-maintained.

Public accessibility to Peachorchard Cove is poor along this segment. The only public property in the vicinity is the playfield at the vocational school. However, there is a chain-link fence adjacent to the Baltimore Gas and Electric right-of-way which limits access to the Cove. The poor condition of the Marina property poses a forbidding barrier to pedestrians.

The view across Peachorchard Cove from the Marina segment is quite pleasant. The north side of the Cove includes a grassy strip of parkland and two-story frame houses.

Storm drainage in this area is very poor. Flooding occurs frequently at Rayme Drive and Avondale Road. The drain lines are undersized and the natural drainage course has been altered by grading and filling on the Marina property. The flow of the existing drain line is inhibited because of its submerged out-fall in Peachorchard Cove. The generally flat topography also makes the area particularly vulnerable to storm drainage problems.

Section I of the shoreline has been significantly altered by the dumping of dirt, rocks and trash. A dirt road running through the Baltimore Gas and Electric right-of-way provides vehicular access to the end of the cove for those who do the dumping.

Section 2 has also experienced some dumping and filling. Most of this

section has a wooden bulkhead rising two feet above the water. The piers which extend perpendicular to the bulkhead are all in poor condition. On several piers nothing remains except pilings.

The major problems at the Marina area segment in descending order of importance are:

Blighting condition of the Marina property Poor storm drainage Commercial disinvestment Dumping and illegal filling at shoreline Lack of public access to waterfront

The existence of a relatively large underutilized parcel of land on the waterfront does, however, present a unique opportunity for the Turners Station community.

### Day Village Segment

The peninsula between Peachorchard and Clement Coves contains the Day Village housing complex (See Map 14). This waterfront segment is composed primarily of a narrow strip of grass-covered land between the shoreline and the row house units. The waterfront land is owned and maintained by the management of the complex. The residents maintain only the small plots at the rear of the houses. Although privately owned, the Day Village waterfront appears and functions as public open space. Sidewalks are adjacent to the houses, and do not provide a continuous walkway oriented to the water. This is a beneficial condition in that the shoreline retains a natural appearance.

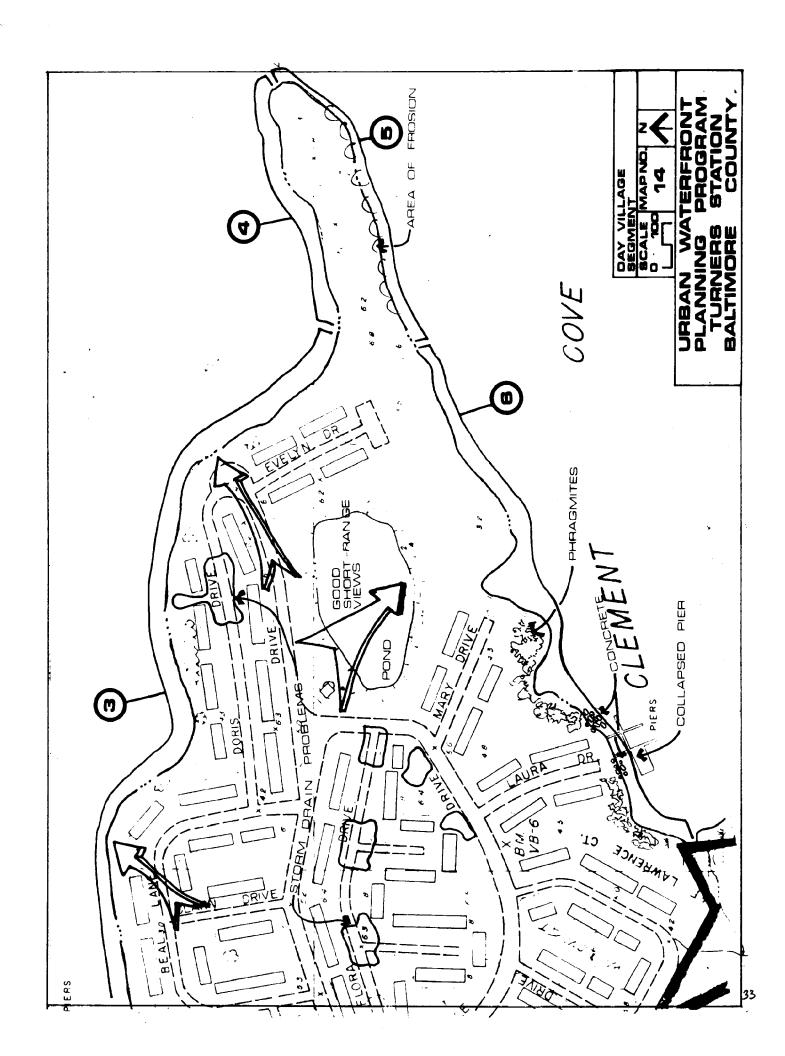
The waterfront is used for passive and some informal active recreation.

Trash has accumulated at several locations, but it is not a major problem.

Storm drainage is very poor in Day Village resulting in ponding after most rainstorms. The existing storm drain lines are very small, and some are clogged or partially collapsed. The most serious problem is at Doris Drive, a private road (See Map 10). Areas within the Avondale Drive loop also experience ponding, but to a lesser degree. Both sides of Drois Drive drain directly north into Peachorchard Cove. The drainage course is completely on privately-owned property, and is therefore the responsibility of the Day Village management.

Section 3 is a natural shoreline with a three to four-foot wide tidal area sloping up to a two-foot high embankment. The base of the embankment shows some signs of erosion due to tidal and wave action. There are pilings from a deteriorated pier just off shore from the cul-de-sac at the end of Avondale Drive. The views across Peachorchard Cove are similar to that described for the Marina area. The water can be viewed from the streets by looking between buildings. There is an excellent vista as one approaches the Avondale Drive cul-de-sac.

Sections 4 and 5 include the north and south shores of Cattail Point, a narrow finger of land. Cattail Point shows some signs of fill dirt which adds to its natural elevation. The predominant vegetation is the Common Reed (Phragmites communis) which naturally develops in areas of disturbed soil. The center of the Point is



worn from children riding bicycles. Fishermen have been observed at the shore on several occasions. Section 4 is well protected and shows few signs of erosion. There is a sandy edge sloping gradually upward. Section 5 is moderately eroded because of tides and waves working to remove the fill material. The three-foot wide sandy tidal area leads to an eight-foot dirt embankment. There is some dumped debris and some signs of water-borne trash. The heavy root mat from the well established Phragmites will prevent major erosion from occurring.

Section 6 forms the north edge of Clement Cove. The housing groups are spaced further apart in this area, producing generous areas of open space.

A pond which empties into the Cove has a pleasant grassy shoreline. There is some trash in the pond, but the area is generally clean and well maintained. There are holes at the pond perimeter which may be entries to muskrat dens.

The shoreline at Clement Cove is lined with a dense growth of <u>Phragmites</u> and some marsh elder (<u>Iva frutescens</u>) and groundsel trees (<u>Baccharis halimifolia</u>). The latter two plants are shrubs frequently found in wetland areas. The <u>Phragmites</u> at this location blocks the views to the water, prevents shoreline access, blocks summer breezes, traps windblown trash and harbors insects. The Day Village management cuts it back each spring, but the growth returns by mid-summer. There are piles of broken concrete at several locations.

The short-range views across the pond and Clement Cove are very pleasant. However, the more distant view, aside from Bear Creek, includes less aesthetic elements such as electric transmission towers, the Key Bridge approach causeway and Bethlehem Steel at Sparrows Point.

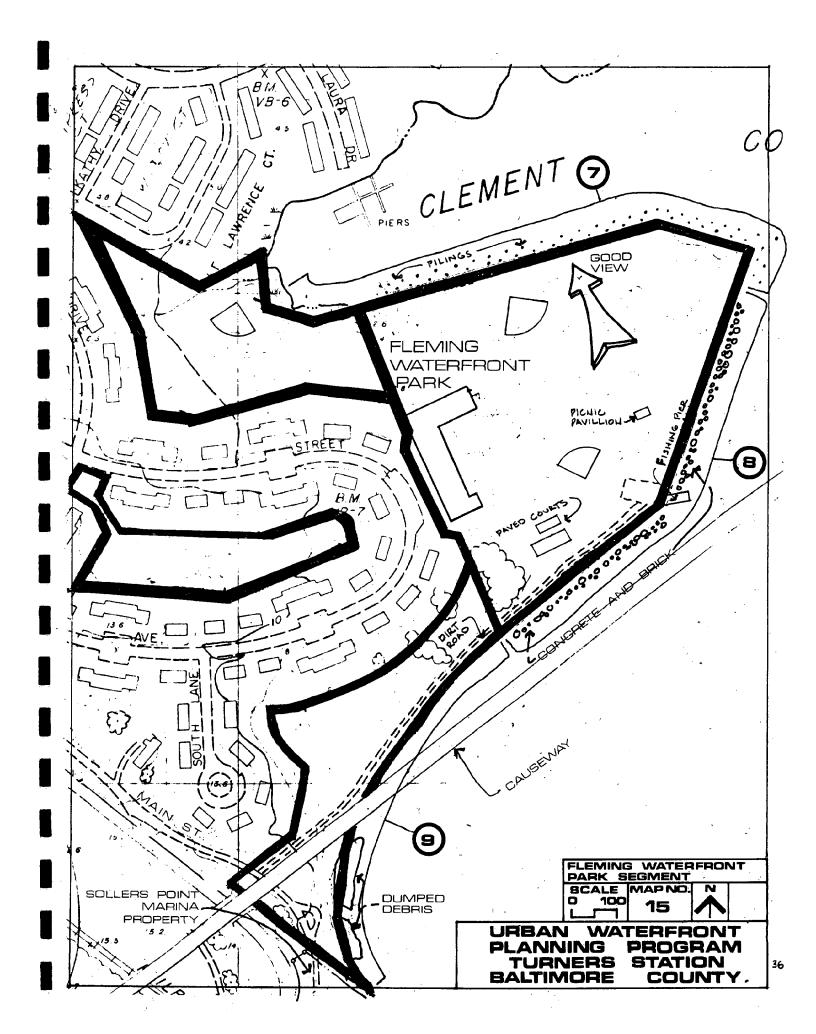
There is a collapsed pier at the end of Laura Drive. It is unsightly and could be hazardous if children were attracted to play on it. Although it is no longer physically connected to the shore, it is accessible at low tide.

### Fleming Waterfront Park Segment

The Fleming Waterfront Park is the most heavily utilized section of water-front in Turners Station (See Map 15). Organized programs through the Recreation Council include baseball, football, softball (men's and women's), basketball and tennis. Lighting enables usage of the facilities at night. Registration for these activities totals 778 (See Appendix 2). Attendance by these participants for Fiscal Year 1981 totalled more than 27,000 and spectator attendance was more than 16,000. In addition, 61 people contributed over 2,000 volunteer hours of involvement. Unscheduled use (See Appendix 3) such as picnicking, fishing, basketball, tennis and informal play is estimated to add another 61,500 visits annually.

Sections 7 and 8 form the perimeter of the Fleming Park. The playfield is grass-covered with a few trees near the water. The land is fill and was originally occupied by an industrial use. The only remnants of the previous use are segments of bulkhead and pilings at Section 7. These structures reduce the impact of waves on the shoreline, reducing the potential for erosion. Water stands in pools behind some of the bulkhead areas. The pilings provide a potential habitat for marine life. The Section 8 shoreline is an eight-to-ten-foot wide sandy area sloping up to a low embankment. Large pieces of concrete and bricks have been dumped along the edge. Although this provides some erosion protection, it is rather unsightly. A fishing pier constructed in 1977 extends into the water. The views across Clement Cove are very nice, but the views to the south include the causeway, and utility and industrial elements.

Section 9 is the former location of the Turners Beach, which was used for swimming until the 1966 Health Department action. The area is now County-owned parkland. The park is grassy open-space which is traversed by a dirt road. The tidal area is sandy, varies in width from four to eight feet, and slopes up to a low embankment. Erosion has been prevented because of the cove configuration. The concrete support structure for the Key Bridge approach causeway crosses the park and continues parallel to the shore, blocking the view somewhat. Public access is good by both pedestrians and vehicles. However, this section of parkland is somewhat



remote, and is far less inviting than the nearby Fleming Center open space. The vehicular access at this secluded location has resulted in extensive dumping of trash and construction debris.

Immediately south of the park is a parcel adjacent to the Access Road interchange ramp owned by the Sollers Point Marina, Inc. The property totals 16 acres and is undeveloped, except for a vacant concrete building which housed switching gear for a defunct trolley car line. Although this property is not technically a part of what is typically considered Tumers Station, the disposition of the site would impact the parkland and would affect traffic intensity on Main Street.

DEVELOPMENT RECOMMENDATIONS

#### DEVELOPMENT RECOMMENDATIONS

### Mars Marina Property

The Marina segment is the only waterfront area which offers substantial redevelopment opportunity. The Mars Marina is the only available parcel of vacant land of significant size in Turners Station. It was therefore analyzed for its development potential for a variety of uses.

It is recommended that Baltimore County acquire the property, demolish the existing structures and redevelop the site as a waterfront park. Proposed new facilities would include boat launch ramps, a picnic area, a comfort station and a parking lot.

County acquisition is viewed as necessary because the current owner has demonstrated no inclination to improve or to maintain the property since the fire occurred in 1976. The action would be consistent with the County Master Plan, which estimates a need for an additional 1,081 acres of waterfront parkland by 1995. In addition to the physical improvements which would result, the waterfront area would become more accessible to the public.

The Turners Station Development Corporation supports the proposed redevelopment, but has expressed two community concerns. The first is the potential for the park to attract off-hour usage for such activities as consumption of alcoholic beverages and drugs. The County is therefore investigating various options for providing security and supervision. The second concern is that residents of the two houses on the property would be forced to relocate. The County will assist current occupants in relocating to other housing.

The proposed use is consistent with State of Maryland policy. In 1976, the State's Energy and Coastal Zone Administration commissioned Roy Mann Associates to do a study entitled Recreational Boating on the Tidal Water of Maryland. The purpose of the study was to document trends in boating activity, identify congestion points, identify access issues and recommended solutions. Among the findings and conclusions of their report were the following:

- Boating congestion is localized and is generally a function of the accessibility to population centers and the physical attributes of the tributary;
- 40% of the state-wide boating demand is in the Baltimore region;
- There is a shortage of boating facilities (marinas, launch sites, and repair facilities). The Baltimore-Washington area has an estimated 55% launch ramp deficit;
- "Boating occasions" in 1990 are expected to double the number recorded in 1970; and
- A growing proportion of boats are stored at homes and there is an increasing trend toward use of boats which can be carried on car-tops.
   Half of all boats are trailered to launch sites.

The report recommended the following criteria for locating future boating facilities:

- Compatability with adjacent waterfront uses,
- Good vehicular access to the facilities, particularly from centers of demand;
- Environmental suitability of the location; and
- Waterway access to, or location on tributaries with reserve capacity.

The existing Mars Marina location meets all of the locational criteria for a boating-oriented facility. Nearby residential areas would gain by the removal of the existing blight. The adjacent commercial facilities would receive some needed additional traffic. Vehicular access to the site is good, although Rayme Drive requires some upgrading. Improvement of Rayme Drive is not currently funded. The site has excellent access from the Baltimore Metropolitan area. There is no facility in Baltimore County with closer waterway proximity to the recently revived recreational boating activity in Baltimore City's Inner Harbor. The revival of boat traffic in Peachorchard Cove should not produce environmental distress. The shoreline at the Cove is currently relatively stable, and would not be threatened by increased boat wake action. Bear Creek was identified in the Roy Mann Study as a tributary having reserve boating capacity.

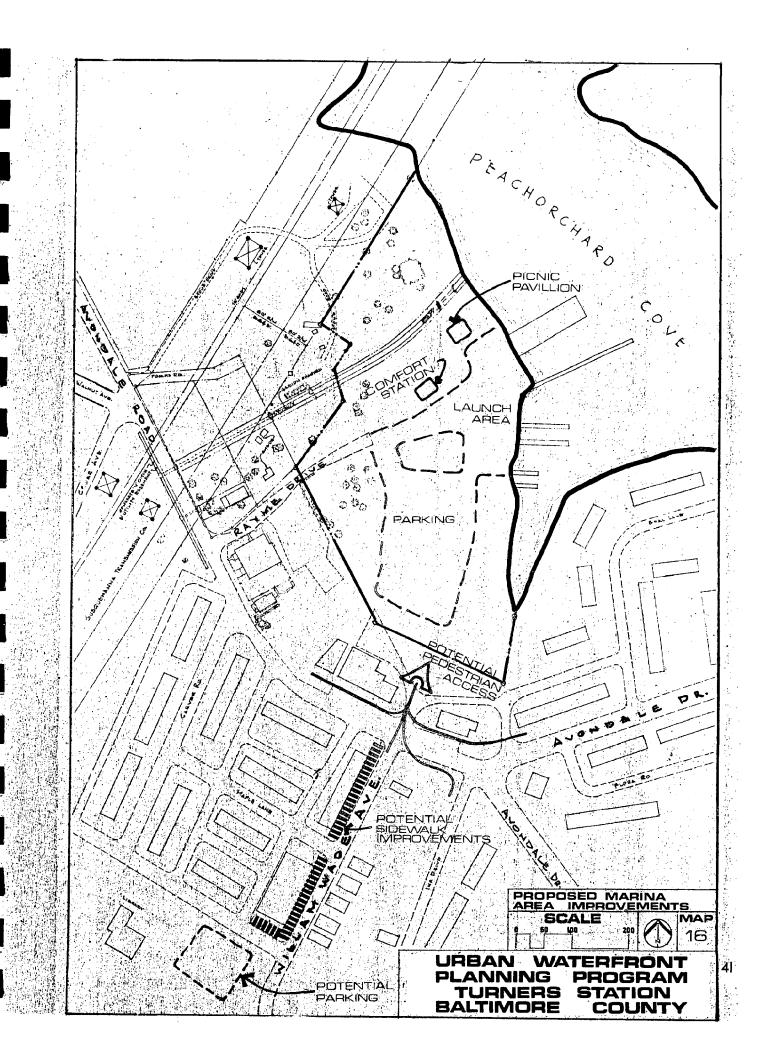
Action occurred on this project during the time of the waterfront study because

of the availability of 1982 Fiscal Year funds in the Baltimore County Capital Improvement Program. The property has been appraised and an offer has been made to the owner. The County Department of Recreation and Parks has proposed a schematic development plan (See Map 16). All of the existing piers and buildings would be demolished and the trash and debris would be removed. The current budget of the project proposes \$379,000 from current County funds and \$160,000 from the State Waterway Improvement program in the 1983 Fiscal Year. The State funds have been approved. An additional \$180,000 is proposed in the County's 1985 Fiscal Year budget to complete the project. The priority actions for the project include acquisition of the property and removal of the existing blight. Until the acquisition cost is established, the scope and the schedule of the improvements cannot be more specifically determined. An implementation date cannot be accurately predicted because of legal complications which are slowing the acquisition process.

In order to maximize the impact of the boat launch/park facilities, the site development plan should take advantage of the existing pedestrian axis along William Wade Avenue. People walking to the site from the south will converge on either side of the vacant drug store building. Any walkways on the site should be oriented to this pedestrian connection.

Because new housing or commercial development would relate to two of the Turners Station Development Corporation's key concerns, an analysis of the reasons for the rejection of these options is outlined below.

Housing is not an economically feasible option. The major development limitation of the site is its location in the 100-year flood plain. According to County law, for any new structures built in areas subject to inundation by tidewater: "... the lowest floor (including the basement) shall not be lower than one (I) foot above the 100-year flood elevation . . ". In addition such structures must be designed to prevent ". . . flotation, collapse or lateral movement . . . ". The construction cost of new housing would therefore be higher than otherwise would be expected. Even with a zoning change it is estimated that only 25-30 townhouse



units could be constructed on the site. The unit-count is lower than would be anticipated for a 6.8 acre site because of its irregular shape and the proposed Baltimore County storm drain easement. The number of units is far lower than usually undertaken by developers. The scale of the project would therefore add to the per unit cost. The market for housing in Turners Station is primarily within the existing community. The income profile of the residents (See Community Profile section) is such that most could not afford new market-rate housing. Circumstances dictate that a preponderance of subsidized units would be an essential component of any housing development at this location. The fact that a H.U.D. Section 8 project is already moving forward in Turners Station reduces the likelihood of approval of another in such close proximity.

New commercial development of the Mars Marina would be inconsistent with the commercial revitalization strategy of the Turners Station Development Corporation. TSDC's current emphasis is upon stabilizing existing businesses as a first step toward attracting tenants to vacant commercial space. The quantity of retail space within Turners Station may already exceed the amount which can be supported by a 4,000-person market area.

## Baltimore Gas and Electric Company Right-of-Way

Extensive dumping has occurred at the westernmost part of Peachorchard Cove because of easy vehicular access to a secluded portion of the Baltimore Gas and Electric Company right-of-way.

It is recommended that the trash and debris be removed and that a lockable gate or chain barrier be installed to restrict access. B. G. & E. has responsibility for these tasks because the right-of-way is their property. B. G. & E. has been informed of the problem and proposed solution, and will take corrective steps upon receiving a written request from the Turners Station Development Corporation.

## Day Village Storm Drainage

Storm drainage problems in Day Village (See Map 10) result in ponding of water at two areas: along Doris Drive and within the Avondale Drive loop. It is recommended that a new storm drainage system be designed and installed in the Day Village area.

The storm drain lines in Day Village are not large enough to handle the drainage area. Some of the lines are partially blocked with debris and do not have clean-outs to provide access to the obstruction. The impacted areas and the natural drainage courses along the nearby coves are on Day Village property. The County Department of Public Works has reviewed the problem and determined that the responsibility for correcting the problems is that of the housing complex owner.

The Day Village management is currently investigating the cost of replacing one of the Doris Drive drain lines with an open concrete trench. This would eliminate the ponding and the structure would be accessible for removing accumulated debris. The design of the trench at the outfall point is of concern because of the potential adverse impact of large volumes of water moving rapidly into the cove during rainstorms. The cove-bottom and associated marine habitat could be disrupted. The Day Village management will be informed of this concern.

The ponding within the Avondale Drive loop is less severe, but would involve a more complex solution. The problem area extends 1000 feet from the pond, which then drains into Clement Cove. The topography is virtually flat and there are some curb and gutter failures. To determine a solution would require an engineering analysis beyond the scope of this study.

#### Clement Cove-North Shore

The extensive growth of <u>Phragmites</u> at the north edge of Clement Cove is considered by nearby residents to be a nuisance. It is, however, difficult to control in this situation. <u>Phragmites</u> propagate by seeds from their tops and by rhizomes, an underground stem which sends up shoots. They are a fast-growing perennial and are persistent. The only method of altering the vegetation would be to treat the soil with chemicals and introduce different plant material as soon as possible. However, such action is unlikely to successful. The U.S. Army Corps of Engineers (Technical Report DS-78-17), referring to <u>Phragmites</u> in a study of plant propagation in wetland areas states that: "Once this plant colonizes, eradication is almost impossible, control with herbicides and mowing is difficult, and invasion by other species is unlikely." There are additional stands of the reeds nearby, providing a source of new seeding. Therefore, it is recommended that the current maintenance procedure (cutting down the <u>Phragmites</u> in the spring) be continued. Although it provides only a short-term solution, it does not produce any adjacent environmental damage, and overcomes the predominantly seasonal problems.

It is recommended that the collapsed pier at the end of Laura Drive be removed to eliminate the visual blight and the potential hazard to adventurous children. The demolition and removal would cost \$5,000.

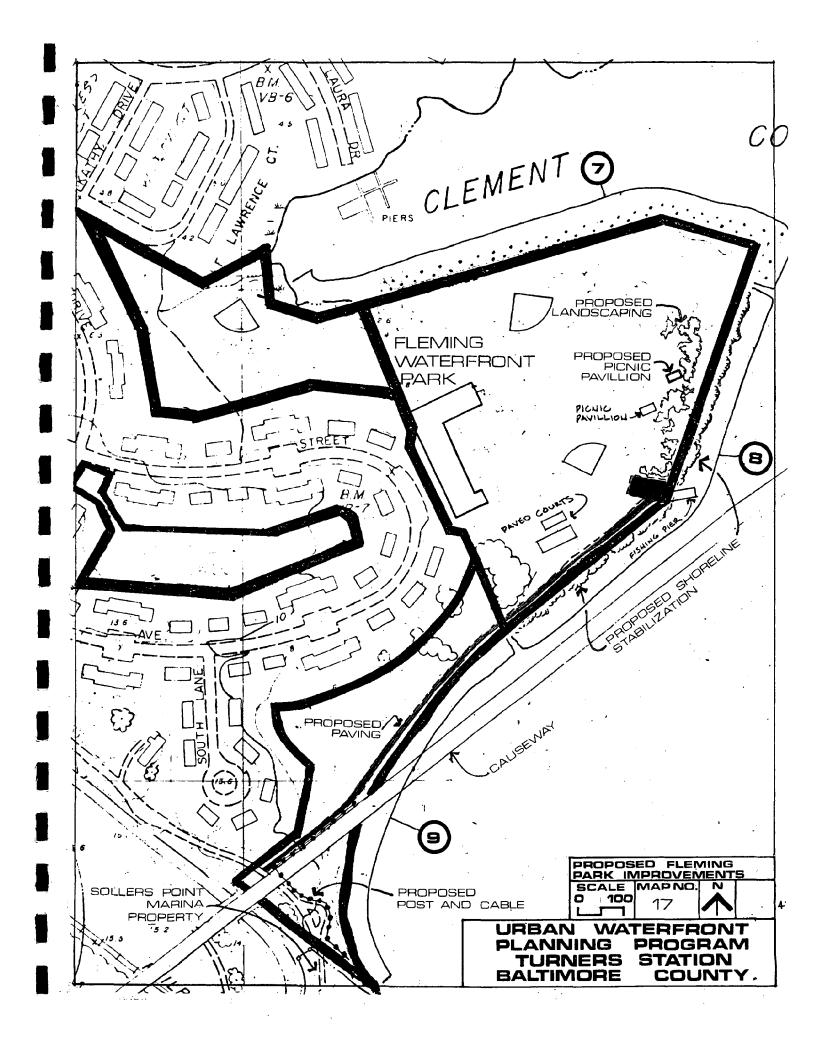
The broken pieces of concrete could be dispersed to protect the shoreline from erosion. If such an effort is made, then fill dirt and planting should be added to improve the appearance. Such a project would have a low priority for State or County funding. The Day Village management should therefore undertake this project. The shoreline is their property and the concrete came from the removal of sidewalks in a section of the complex. The cost of the improvement would be approximately \$1,000.

### Fleming Waterfront Park

The facilities at Fleming are well-utilized. There is no opportunity to expand the area of the park. However, some modest improvements would enhance existing activities (See Map 17):

- Landscaping near the eastern shoreline would create a more visually pleasing and comfortable setting for picnicking and fishing. The landscaping would block the view somewhat, but is more desirable than retaining an unobstructed view of the causeway, electrical transmission towers and Bethlehem Steel. A mixture of shade trees, flowering trees and evergreens would cost approximately \$15,000.
- An additional picnic shelter with tables and barbecue grills is recommended, if justified by utilization, to increase the capacity at the picnic area. The new facilities would cost approximately \$10,000.
- Shoreline improvements at the east edge of the park are recommended to conceal the piles of brick and concrete. The proposed solution is to fill the crevices and cover debris with soil and introduce plant material to retain the soil. Riprap should also be placed in several locations which do not have the bulk material around which the fill is to be placed. The recommended planting is a ground cover for most of the frontage, and grass at intermittent sections to permit access to the water. The cost of this action would be approximately \$3,000.
- Installation of a vehicle barrier where the dirt road intersects

  Main Street would restrict access to the triangular area which has experienced extensive dumping. The remaining portion of the dirt road is less secluded and should not be as conducive to dumping. The cost of the barrier would be approximately \$3,000. The clean-up of the existing debris could be done by a County Recreation and Parks maintenance crew, which would be absorbed within the existing Fiscal Year 1983 budget.
- Paving of the dirt road would enhance the appearance of the park, reduce erosion and improve access to the picnic area and fishing pier. The



cost of paving would range between \$10,000 and \$55,000 depending upon the surfacing material used.

#### Future Development Areas

Development at the commercial cluster near the Mars Marina and the Sollers Point Marina, Inc. property would have a significant impact upon the community. However, additional information must be obtained before definitive recommendations can be made. The narrative below therefore is limited to the currently identified issues and potential for these two waterfront areas.

The revitalization of the commercial properties must be viewed in the context of the strategy of the Turners Station Development Corporation (TSDC) for commercial revitalization throughout their community. TSDC's goals are to strengthen existing retail operations, fill vacant space with new tenants, improve building exterior conditions, resolve transportation issues and improve public infrastructure. TSDC and Baltimore County are currently conducting interviews with commercial property owners and retail business owners to inventory existing conditions and determine the capacity of owners to accommodate debt service in cases where physical improvements are required. Subsequently, community residents will be surveyed by TSDC to identify their current shopping patterns. TSDC and the County will then assist those desiring improvement loans and will implement public improvements to complement the private sector investments. There is \$30,000 available in the current Community Development Block Grant program for the public improvements.

The recommendations for the commercial properties located near the intersection of William Wade Avenue and Avondale Road must await the completion of the steps listed above. This report will therefore outline only in conceptual form the nature of improvements which could occur in that area.

There is an extensive amount of pedestrian and vehicular traffic in the vicinity of the intersection of William Wade Avenue and Avondale Drive. William Wade Avenue is one of the two ingress/egress routes serving Ernest Lyons Homes. Avondale Drive is the collector road for all of Day Village. According to recent County Traffic Engineering data, 4000 vehicles/day traverse the section of Avondale Road immediately south of Sollers Point Road. The Marina redevelopment will increase both pedestrian and vehicular traffic. The space between the Day Village Drug Store and the laundromat could form a gateway to the new waterfront park. Improved

sidewalks along William Wade Avenue would reinforce the linkage of the commercial neighborhood activity with the new park (See Map 16). Vehicular access to the area is good, but on-street parking is relatively limited because of the density of residential development in the immediate vicinity. The only available off-street parking is located in front of the laundromat. Additional off-street parking is needed near the Balnew Community Service Corporation building. This could be accommodated on the vacant land adjacent to the library branch.

All of the existing outdoor lighting in the area is oriented to automobiles rather than the pedestrians. Light fixtures, mounted on arms extending from Baltimore Gas and Electric poles, are infrequently spaced, and primarily light the streets. The area is quite dark after sunset, which does not encourage evening use of the stores. Lighting on lower poles, directed at sidewalks would alleviate this problem.

Public improvements can provide only a limited impact upon local shopping patterns. The key to the success of the program will be the willingness of the property owners to improve building conditions and their ability to attract additional tenants. A related issue is the ability of existing tenants to absorb rental increases which may result from the improved facilities.

The TSDC is attempting to determine the owner's plans regarding the disposition of the Sollers Point Marina, Inc. property. Some industrial uses are permitted by the ML zoning. Proposals for industrial development should be monitored by TSDC because of the likely increase in vehicular traffic on Main Street and potential environmental impacts.

The site was identified by the Regional Planning Council (Interim Report – Environmental Enhancement of the Baltimore Harbor) as a potential location to establish wetlands which would mitigate adverse impacts associated with dredge-and-fill operations for industrial and shipping facilities in other sections of the harbor. The RPC proposed that additional wetlands could extend along the south edge of the fill area which supports the Key Bridge and in the area south of the B. G. & E. Synthetic Gas plant. There is, however, no mechanism to reserve the site for this use.

### Conclusion

The waterfront is a significant element to the identity of the Turners Station community. Most of the community residents live in locations which provide visual contact with the water or waterfront land on a daily basis. The waterfront land is a resource for substantial organized and informal recreational activity. However, direct water contact recreation is limited because of the poor water quality in Bear Creek. Fishing and crabbing from the shore are the major recreational activities directly oriented to the water.

The improvements recommended in this report are intended to be consistent with the neighborhood scale of Turners Station. If the recommendations are implemented, then additional waterfront land will be available for public use, access to the shoreline will be improved, and blighting conditions will be eliminated.

**APPENDICES** 

APPENDIX I Demographic Data

	Baltimore County	Percent of County	Census Tract 4213	Percent of Census Tract
* Total Population	655 <b>,6</b> 15	100	3,940	100
* White Population	590,283	90	405	10
* Minority Population				
Black	<b>53,9</b> 55	8	3,513	89
Asian	8,524		6	
Other	2,853		16	
* Education				
Total Persons over age 25	344,162	100	2,412	100
1 - 4 years	7,418	2	225	9
5 - 7 years	41,841	12	524	22
8 years	36,973	Ħ	255	11
9 - II years	72,984	21	660	27
12 years	104, 815	30	<b>50</b> l	21
College: 1 - 3 years	33,118	10	143	6
College: 4 years	43,873	13	89	4
Median years complete	12.1		9.9	•
% complete high school	52.8		24.6	
* Population by age				
Under 5	35 <b>,</b> 72l	5	245	6
5 - 7	123,853	19	<b>785</b>	20
18 - 64	426,677	<b>6</b> 5	2,466	63
Over 64	69,364	H	444	11
** Median Income 1970	11,252		8,005	
** Median Income 1976	15,570		10,136	

<sup>\* 1980</sup> Census

<sup>\*\*</sup> Turners Station Development Corporation Survey

_
_
$\sim$
$\sim$
_
$\Box$
=
/
<del></del>
<u> </u>
а.
Δ.
1

Scheduled Use

	Vol.	901	418	=	188	761	.1	32	901	061	61	103	ŀ	143
	Vol	m	15	2	2	ω	!	4	2	5	2	9		٥
	Specta- tors	130	865	216	5978	2070	299	ŀ	433	1422	1 32	3369	713	1
	Attend-	357	1613	299	9258	1378	479	9865	232	, 604	28	501	1354	1375
	Registra- tion	35	85	20	72	30	1	194	.15	36	15	80	!	961
Fleming - FY 1981	Facility Used	Diamond #	Diamond #1	Diamond #2	Multi-use Court	Athletic Field	Athletic Field	Diamonds, Multi-use ct. Tennis cts., et al.	Diamond #3	Diamond #2	Diamond #1	Diamond #1	Diamonds #1 & 2	Tennis Courts
	Schedule	Saturday	Monday-Friday	Monday & Wednesday	Monday&Wednesday	Mon-Thurs (Practice) Saturday (Games)	Whenever Necessary During November	Monday-Friday	Tues & Thurs	Tues & Thurs	Saturdays	Sunday	Monday-Thursday & Sunday	Monday-Friday
	Activity	Baseball, 6-7	Baseball, 8-12	Baseball, 13-14	Basketball Lights	Football, Tackle	Football Lights	Playground	Softball, 8-12	Softball, 13-16	Softball, Women	Softball, Unlimited	Softball, Lights	Tennis

Source: Baltimore County Department of Recreation and Parks

2,177

19

16,328

27,711

778

TOTALS

APPENDIX III
Unscheduled Use
Fleming - FY 1981

Area	Per Day	Annual
Tot Area	20	6,000
Picnic Area	15	3,000
Tennis Courts	35	10,500
Basketball Courts (Including lights)	85	25,500
Athletic Fields	25	7,500
Fishing (Pier & Shoreline)	30	9,000
TOTALS	210	61,500

The figures used above are based on what is considered to be an average daily attendance for 300 days annually for each area. The picnic area figures are based on 200 days annually.

Source: Baltimore County Department of Recreation and Parks

## APPENDIX IV

# COST ESTIMATE DETAIL

Cl	ement	Cove	-	North	Shore	
_	<del></del>					

	-	Demolition and removal of pier		\$5,000
Fleming	Wat	erfront Park		
	_	Picnic Facilities		
		Concrete Pad (12'x15'x6"); 3 c.y. @ \$70/c.y		\$ 210
		Concrete finishing; 180 s.f. @ \$.25/s.f.		45
		Shelter; I @ \$7,500 each		7,500
		Picnic Tables; 5@ \$250 each		1,250
		Barbecue Grills; 5@ \$75 each		375
		Design and Supervision; (5%)		470
			_	\$9,850
		· -	Say	\$10,000
	-	Shoreline Stabilization	,	
		Riprap; 50 c.y. @ \$20.00/c.y.		\$1,000
		Fill material; 250 c.y. @ 10.00/c.y.		2,500
		Jute mesh; 500 s.y. @ \$.75/s.y.		375
		Ground Cover; 700 plants @ 50/100		350
		Seeding; 100 s.y. @ \$.50/s.y.		50
	•	Design and Supervision; (5%)		\$4,489
			Say	\$5,000
		-	Juy	45,000
	-	Landscaping		40.000
		Shade trees 10 @ \$800 each		\$8,000
		Flowering trees 5 @ \$300 each Evergreens 10 @ \$400 each	•	1,500
		Design and Supervision (5%)		4,000 675
		Design and Supervision (570)		\$14,175
		•	Say	\$15,000
		•		
	-	Vehicle Barrier @ Main Street		
•		Wood Bollards; 40 @_\$50 each		2,000
		Excavation; 10 c.y. @ \$16/c.y.		160
		Concrete Grout; 5 c.y. @ \$40/c.y.		200
		Cable; 450 l.f. @ \$1/1.f.		450
		Design and Supervision (5%)		140
			S	\$2,950
			Say	\$3,000
	_	Paving @ Existing Dirt Road		
*		2,750 s.y. @ \$20/s.y. (Bituminous); or		\$55,000
		500 c.y. @ \$20/c.y. (Crusher Run)		\$10,000

